

Wild Flowers of Western Australia.

BY ERNEST J. BICKFORD, F.L.S.



THE visitor to Sydney invariably has the question asked, Have you seen our harbour? The stranger in Melbourne, What do you think of our city? But on visiting the Golden West, Are not our flowers lovely? It is admitted that all these three colonies can boast of their peculiar attractiveness in the directions indicated. Western Australia's abundant wealth of floral beauty is, to say the least, unique and striking, especially in the Swan River and Southern districts, although the northern portion, near the coast line and the sand plains, can claim a very fair share, and flowers are indeed to be found for the most part throughout the year.

Regarding the wild flowers of this vast territory it is interesting to read some of the journals published in Great Britain during the early stages of the present century. Botanists at that time made the best use of the information obtained from all sources, including famous collectors, who visited these and other southern shores. But it is readily recognised that the true value, and extensive distribution of the many genera and variety of species were not brought very prominently before the botanical world, in a comprehensive form, until the advent of the "*Flora Australiensis*," compiled by George Bentham and Sir Ferdinand Baron von Mueller, comprising seven volumes. Since the issue of these invaluable botanical publications, other discoveries have been made in the various colonies. Doubtless time will yet add many more species to the large number already recorded. It was the late Baron who said, "Australia is a great continent and all its vegetation is yet untold." It is not always necessary to visit what have been hitherto unexplored parts to find new species of a plant. They may be discovered as the gold was in this colony a few years ago, by ardent prospectors bringing to light the precious metal in localities over which it is said many survey parties and others had been known to travel.

In endeavouring to make this article interesting, and probably to some instructive, it will be necessary to illustrate our subject by a few specimens of the plants to be found in the various localities described. Herewith we give seven illustrations, taken from some excellent water-

colours executed by Lady Forrest, who kindly lent them for the purpose. Some were painted at the time the late Baron visited Western Australia. They are a very correct and true representation of the structure of the plants. We are indebted to Miss E. Owtram for furnishing us with her paintings for reproduction, and to Miss Creeth, who supplied an able painting of an endemic plant. We reproduce on pages 14 and 15 two specimens of



LEUCOPOGON.

Swan River flora by Noel Doyle Kidson, of Cottesloe, painted by him when only 10 years old, and illustrating his undoubted talent in this direction.

According to the late Baron's last census, more than half of the total vegetation of the Australian continent is represented in the West, the number being 9,050 species. Since then, however, the late Baron has furnished the writer with the names of a few more of recent discovery. Of the number mentioned, 2,460 are not to be found elsewhere, a proportion far exceeding that of the endemic plants in any of the other Australian

territories. What is more remarkable, these plants are chiefly found within a triangle, taking a line of demarcation south of Shark's Bay to the west of the Great Bight; within the space named a marked distinction exists between the plants of the humid littoral regions and of the dry inland tracts; the dividing range which separates the water system, marks off also, to a large extent, the constituents of our gum forests and other features manifestly apparent.



HIBISCUS (or Native Tulip).

Of the immense number of plants existing in Western Australia, the largest numerical division is the Leguminosæ consisting of 497 species; this includes the Acacia family, which are embraced in the natural order just mentioned, numbering 128, a species of which is largely grown for its bark (wattle). Many species are of great value as fodder plants although some are included in the poisonous realm. The flowers of the various species to be found in this large and diversified order are

strikingly beautiful, and are represented in almost every colour, from the bright red and black of the *Clianthus Dampieri*, or Sturt's desert pea, to the small yellow blossom of *Acacia Diptera*.

Following the *Leguminosæ*, the order *Myrtaceæ* can claim to rank next with 396 species of various genera, the giant eucalypts are included and so are the *Melaleuca* and *Leptospermum*, paper bark or ti-tree family *Darwinia*, and the pretty fringed *Verticordia* with its lemon cented



BYBLIS GIGANTEA.

foliage, the handsome *Bæckea*, and the beautiful *Hypocalymma*, the two last are to be found in the immediate vicinity of Perth, and rank with the most attractive of the Swan River flowers. The *Callistemon* with its bright scarlet plumes is another of this order, *Beaufortia*, *Calothamnus* and many others of varied interest. Three Illustrations of this order are given.

We now come to the order Proteaceae with its 380 odd species, the genus *Banksia* (illustrated) or Honeysuckle is well known to all visitors to the colony and is found everywhere in the Swan River, southern and other districts. Our native pear (*Xylomelum*) grows in the Swan River area, and is of much interest to botanists, the genus *Grevillea* (illustrated)



GROUP OF ORCHIDS (Mostly *Caladenia* or Spider Orchid).

is a strikingly pretty plant with its rich scarlet flowers suspending in graceful ferns, called locally the native fuchsia, and is easily recognised in our illustration. The *Petrophila* growing everywhere, from the coast to the Darling Ranges, is also interesting. Some species of this plant are of great beauty the flowers having the appearance of rich pink velvet.

Then we have the *Synaphea*, another genus of this order, which is remarkable for its rich yellow flowers, and peculiarly formed leaves, in

some instances resembling a stag's horn. The Smoke Grass, or *Conospermum* is to be found in the vast tract of country from the north inland to the southern districts, and in viewing large patches of this plant the effect is most pleasing. The genus *Persoonia* *Hakea* *Lambertia* *Adenanthos* and *Isopogon* have an extensive range of habitation and possess foliage mostly of a prickly and repellant nature. There are also a few minor genera in this order.



CLEMATIS (or Virgin Bower).

Next in numerical line we find the *Compositae* claiming 209 species of the various genera. Amongst the most predominant are the (ever-lasting) *Helipterum*, *Helichrysum*, covering the sand plains with a rich carpet of flowers, the (Swan River Daisy) *Brachycome* as illustrated on page 11, a pretty little annual; that of the pale blue colour is most attractive and like many other flowers of Western Australia is well worth cultivating. The genus *Aster* grows profusely in the Swan River district

Podolepis, Waitzia, Toxanthus, Angianthos, Calocephalus, Cotula, Guaphalodes, Centipeda, Senecio, and many other genera having a few species are recorded in this order.

The Epacrideae number 152 species.—The Styphelia, is commonly known as our native heath. The foliage of this plant is generally of a prickly nature, and the flowers are mostly white, tipped with some other colour, and resembling the garden heath. Andersonia is another genus



MARIANTHUS.

Lysinema. The flowers of this plant emit a peculiar odour, not unlike the smell of curry powder. Another pretty flower is produced by the genus Sphenotoma, and was described in 1828 in the "Flora Australasia." Then we have the Coleanthera, Conostephium, one species of Trochocarpa Needhamia, Oligarrhena; and the Brachyloma Leucopogon included by the late Baron in his last census in the genus Styphelia. These are the most important species in the above order.

[The following six flowers are produced from
Miss Owtram's Sketches.]



CROTALARIA (Parrot Plant).

pogon, Wurmbea, Zanthorrhoea (the grass tree), Kingia, which is endemic to Western Australia, the characteristics of the last named genus being investigated by eminent botanists of the present time, with its inflorescence in the shape of a number of flower heads growing from the summit of the stem. There are a few other genera of less importance to those mentioned.

The natural order Orchideae in the venacular Orchids, are well represented, but only those of a terrestrial habit. It is remarkable that the sphere of existence of the Orchid family is limited to the north, inland to York and surrounding districts, and in the southern areas. They seem to grow best in wooded country. They are found in large numbers on the slopes of the hills; we have 75 varieties in

Liliaceae has but 76 species and amongst the most familiar genera are the Burchardia which is commonly known as the Snowflake Flower of West Australia, probably because when in bloom the ground appears to be covered with a stretch of groups of white flowers, especially in the Swan River district. To all collectors in and around Perth this plant is a great favourite. The flowers being borne on long stems are very effective for table decorations. Then the Thysanotus, or fringed lily is of a remarkable habit, and in most varieties is twining. Some persons call this the satin flower with not a little reason. We have in this order Xerotes, sweet-smelling, Johnsonia, Bartlingia, Baxteria, Borya, Calcectasia, Dasy-



BRACHYCOME.

Goodeniaceae, the various genera of which grow profusely in the Swan River district and on the ridges of the Darling Ranges, contains a total of 130 species. Of this order the genus *Leschenaultia* is undoubtedly recognised as the most handsome. The beautiful red-flowering variety of the small species finds its native habitat in the north, towards Geraldton. The colours in every instance are particularly rich, and for



ERIOSTEMON (Native Rose).

miles the ground is covered with the pale green foliage, bearing large clusters of flowers of a brilliant hue. From the Darling Range right down to the coast line are choice collecting grounds for this attractive plant. The No. 11 genus, *Goodenia*, is to be found invariably in close proximity to the *Leschenaultia*, the flowers are also mostly blue. The *Dampiera* is another pretty little herbaceous plant. *Scaevola*, *Vellea*, *Selliera*, *Calogyne*, *Catosperma*, *Anthotium* *Diaspasis*, and one *Brunonia* constitute this natural order,



BORONIA.

Hyperanthus, whose flowers turn black when dried, are a remarkable genus. Drakea (or hammer-headed orchid) a tiny little genus found growing on the margin of the Canning, is found also towards Geraldton and has a peculiar movement in the labellum. So also has the Caleyathe movement of which is evidently for fertilising purposes. The flowers of the Glossodia are spotted white, and bear the appearance of having been varnished. The structures of the flower of the Pterostylis resembles a small box and has a movable labellum, which is sensitive and will close in the box immediately it is irritated by an insect, making it a prison at the same time. Corysanthes, Calochilus, Cryptostylis, Epiblema, and Gastrodia are included in the orchid group.

Rutaceae, is the natural order for the genus Boronia. Of this class there are seven

all including 18 genera, the most conspicuous of which is the Caladenia or spider Orchid, of those there are 18 species. The very correct picture of a group painted by lady Forrest mostly represents a large number of the species of this genus. Thelymitra, another genus, bears large spikes of a very attractive and peculiarly spotted flower of various colours. Diuris, or the dog's ear Orchid, is another popular little plant, and Prasophyllum with its long spikes, sometimes reaching 18 inches in length, of densely formed small white flowers, is another interesting genus, and Eriochilus is found in the Swan River district; it commands attention by all collectors.



ANIGOZANTHOS (Black Kangaroo Paw).



GREVILLIA (Native Fuchsia).

the flowers being purple and yellow and might well be called our native rose, the small nodding species of pale blue flowers are amongst the first and last to bloom during the season, the genus *Diplo-laena* was named after Dampier. It is a most graceful little herbaceous plant and is easily collected on the Darling Range. During the excursion of the Mueller Botanic Society in October last, several members collected specimens of *Dampierii*, the only species of this genus. *Chorilaena*, *Philotheca*, *Geijera*, are the other genera of this charming group. The pink and white *Crocea* of Albany district are included in the genus *Eriostemon*.

Euphoabiaceæ is an order well known to the apothecary for the medical properties of many of its species, of which

genera embodying 60 species, of these the genus *Eriostemon* are most conspicuous. *Boronia Megistigma* has been introduced into most civilised countries, the flower giving off a delightful refreshing perfume making it a great acquisition to any garden. Its home is in the southern corner of the colony, and it is illustrated here. There are other species, but the most striking is the pale yellow variety of the species, *Tetrandra*, growing in the direction of Geraldton, the flowers of this plant give off also a very sweet odor, the genus *Eriostemon* has a large range of habitat, from the north to the extreme south. A really handsome variety grows in the locality of Champion Bay.



NUYTSIA (Christmas Bush or Fire Tree).



LACHNOSTACHYS.

[From a Painting by Miss Creeth].

Bassia, Antriplex, Rhagodia, Kochoia, Dysphania, Didymanthus (endemic) and Chenopodium (a noxious plant). There are several other minor genera of this order.

Malvacæ has a total number of 39 species, 13 of which belong to the genus Hibiscus, of which we give a handsome group by Lady Forrest. Many of this family are found on the goldfields and are called by the people living there native tulip. the colours are generally of soft tints of pink, the petals of the flowers are prettily veined, and in some instances almost transparent. Abutilon Sida, Plagianthus, Malvastrum, Gossypium, and Lavatera are the other genera of this order found in the colony.

there are 52 indigenous to Western Australia.

Sterculiaceæ is an interesting order and comprises 70 species, mostly of the genus Thomasia and Lasiopetalum. We have two Brachychiton and several Commercoma growing in extensive areas reaching far inland.

Labiatae is a natural order taking an active part in West Australian flora. There are 55 species in all. Hemiandra (or snake plant) grows profusely around Perth. Of the genus Mentha (or Mint) we have one Wrixonia, is an endemic genus, Microcroys, Westringia, Tencorium, and Prostanthera complete the genera of this order.

Salsolaceæ includes 61 species. The foremost genera are



CALOTHAMNUS.

[From a Watercolour by Master Noel Kidson.]

Umbellifereæ is found to embrace 50 species of 8 genera, the most imposing of which is the genus *Zanthosia* or Southern Cross, a native of the Albany district. *Didiscus*, with its large umbells of pale blue flowers growing in the limestone areas is remarkable for its extreme beauty. *Trachymere*, *Hydrocotyle*, *Erygium*, *Daucus* *Apium* are others in this order, so also the genus *Actinotis* (or flannel flower) this grows



BANKSIA (Honeysuckle).

[From a Watercolour by Noel Doyle Kidson.]

in large quantities on the margin of the Helena River and on the borders of the Darling Range; it is an attractive little annual.

In the order *Amarantaceæ*, *Ptilotus* leads with 36 species out of a total of 47. In the Eastern colonies it is known in the vernacular as the cat's paw. The flowers are usually pink and white; they retain their colour for a long time after being gathered. This genus is found in an



PETROPHILA (Velvet Plume).

of most species are not attractive, and the plants of varied economic value,

(Of the order Myoporinae the genus *Eremophila* stands out conspicuously and embraces 40 species. *Myosorum* nine species. Of the first named a large number are found in the auriferous tracts and arid districts, and when in flower are of striking contrast to the uninviting environments.

Haemodoraceae: This natural order is well known to all West Australians, for the colony can boast of having almost all the known species and, with one or two exceptions they are endemic. The genus *Conostylis* has 32, *Anigozanthos* (or kangaroo paw) totals 9. Of this genus we illustrate, *Fuliginosus* (meaning black), found in the Geraldton district. There are also *Tribonanthes* 5, *Phlebocarya* 3, all endemic; of *Haemodorum* 7 species.



VERTICORDIA.

thern districts and sand plains evidently dry localities. *Lippia*, *Spartothamnus*, *Newcastlia*. *Physopsis*—which is another endemic—*Mallophora* *Dicrasyllis*, *Chloanthes*, *Hemiphora*, *Cyanostegia*, *Clerodendrum*, *Avicennia*, are all of this order.

Solanaceæ has 27 species in all. The genus *Solanum* (commonly known as nightshade and potato plant. etc.), are included in this genus, *Lycium*, *Datura*, *Nicotiana* (the tobacco family), *Anthotroche*, *Anthocercis*, *Isindra*, *Duboisia*, all of which are very scattered in their geographical limits. The flowers



LESCHENAULTIA.

district, the colours of the flowers of most species are white and diffused with shades of pink, while some are yellow.

Dilleniaceae: The genera of this order are few, and only one is a native of Western Australia (*Hibbertia*), representing 16 species. The flowers generally are of a rich yellow, it seemingly introduces the flower season, and remains in full bloom until its close. The species apparently prefer the ironstone of the Darling Ranges, as the flowers found there are by far of the richest colour.

Verbenaceae certainly ranks with the most phenomenal of Western Australian flora. It includes 38 species, all of which are of much interest to collectors. *Lachnostachys* is illustrated as painted by Miss Creeth. The stem and leaves of this remarkable plant seem to be void of all sap, and have a thick woolly covering, in appearance at first sight resembling an artificial flower. These are found in the nor-

extensive area from the Swan River. *Dipteranthemum* is endemic, *Amaranthus*, *Euxolus*, *Polycnemum*, *Gomphrena*, *Aethernanthera*, and *Anchyranthes* conclude this order.

Candolleaceae: Out of the 70 species in this order, 64 are of the genus *Candollea*, and there are six *Leewenhockia*. The late Baron in his last census of vasculares, has removed what was hitherto recognised in botanical publications as the genus *Stylidium* from *Stylidaceae*, and includes it in *Candollea*. This little herb is locally known as the trigger plant and grows in abundance in the Swan river



TEMPELTONIA (Order Leguminosae).



THYSANOTUS (Fringed Satin Flower).

Champion Bay, illustrated on page 9, by Lady Forrest, is a typical picture. The species of small growing habit are to be found in the Darling Ranges and the southern districts, the flowers mostly are of blue colour, the genus *Billardiera*, *Sollya*, *Cheiranthra*, *Bursaria*, and one *Pittosporum*, complete this order.

Droseraceae, of which we show an illustration painted by Lady Forrest, the subject being *Byblis Gigantea*, is a perfect picture of the fly-trap family. The *Drosera* genus is more easily recognised on account of the glittering tentacles of the leaves being covered with a sticky juicy acid. This is to arrest the inquisitive little insects, doubtless attracted by the dew on the leaf. As soon as these tentacles are touched the leaf

In the order *Ranunculaceae* the genus *Clematis*, as illustrated from a watercolour by Lady Forrest, is familiar to all who visit the country districts. We have two species in Western Australia. Both are exceedingly attractive on account of the pure whiteness of the flower which literally covers the trees and shrubs over which the plant climbs. *Ranunculus* is another genus of the order, and has also three species indigenous to Western Australia.

Of the order *Pittosporaceae* some of the species of which are esteemed for their extreme beauty, the *Marianthus* claims to be the most attractive. The climbing varieties growing in the north near



HIBBERTIA.

closes in upon the unwary insect, which is soon absorbed by the juice exuded by the plant. The flower of the *Byblis* is by far the most attractive and is of a rich salmon pink colour. Probably the brightness of the flower attracts the insect to the stem and leaves, which are covered with the same juice as the *Drosera*, but in this instance the insect is absorbed on the surface of the plant. There are 36 species of the *Drosera*, which is known as insectivorous.

As to the Lorantheae, we all know the Mistletoe, and the genus *Loranthus*. In this order Western Australia has 5, but stands alone in the Genus *Nuytsia*. There is only one species in existence, namely *Floribunda*, which we give from Miss Owtram's brush. This plant is known locally as the Christmas-bush, or fire-tree, which is an interesting study as its congener, the Mistletoe parasite.

The last natural order we will deal with is the Ficoideae, to which the genus *Mesembrianthemum* belong. There are two species of this genus found in Western Australia and what is known in the Geraldton district as the ice plant, growing on the coast in the hot dry sand, is of the genus *Trianthema*; there is another *Tetragonia*, of 3 species; *Aizoon*, 2; *Gunnia*, and *Zaleya*, 1 each; *Macarthinia*, 2; and *Mallugo*, 4. These are all the genera in the above order. An interesting little plant grows in the Albany district belonging to the *Pepanthaceae*, and is the only species indigenous to Australia. It is the genus *Cephalotus Follicularis*. Then we have the *Passiflorae*, *Santalaceae*, *Portulacaceae*, *Geraniaceae*, *Violaceae*, *Bignoniaceae*, *Rubiaceae*, *Cycadeae* and other minor orders.

In conclusion, it is the intention of the MUELLER BOTANIC SOCIETY, when funds are available, to publish monthly, *in fragmenta*, a treatment of the flora of Western Australia, and doubtless the efforts of the Society will be appreciated by all admirers of the vast flora to be found in this colony. The Secretary of the Society is to be congratulated upon the work done by him during the past year and the excellent arrangements made in connection with the many pleasant excursions held during the season, which have been the most successful that have taken place under the auspices of the MUELLER BOTANIC SOCIETY of Western Australia.

